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Three Shillings

September 1961

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British Birds

AN ILLUSTRATED MONTHLY JOURNAL

Edited by

P. A. D. Hollom E. M. Nicholson
I. J. Ferguson-Lees Stanley Cramp

Photographic Editor: Eric Hosking

Hon. Editors: W. B. Alexander N. F. Ticehurst

Editorial Address: 30 St. Leonard's Avenue, Bedford

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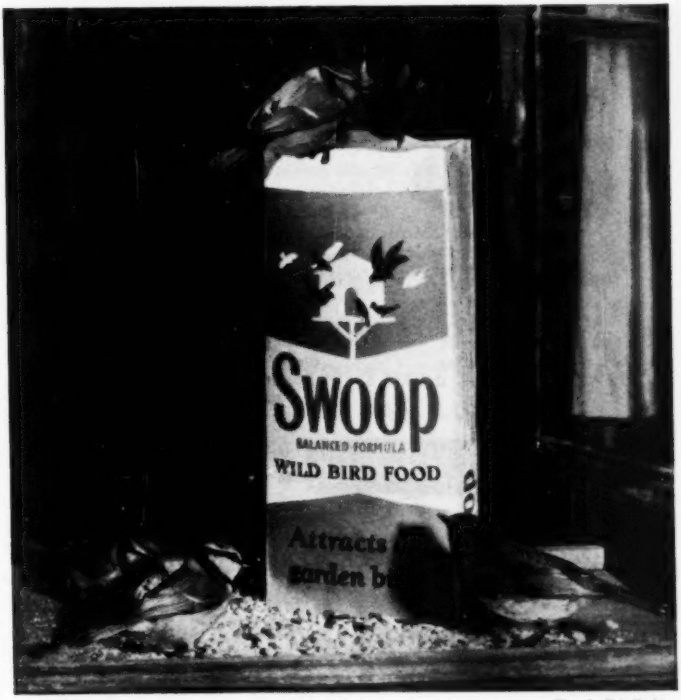

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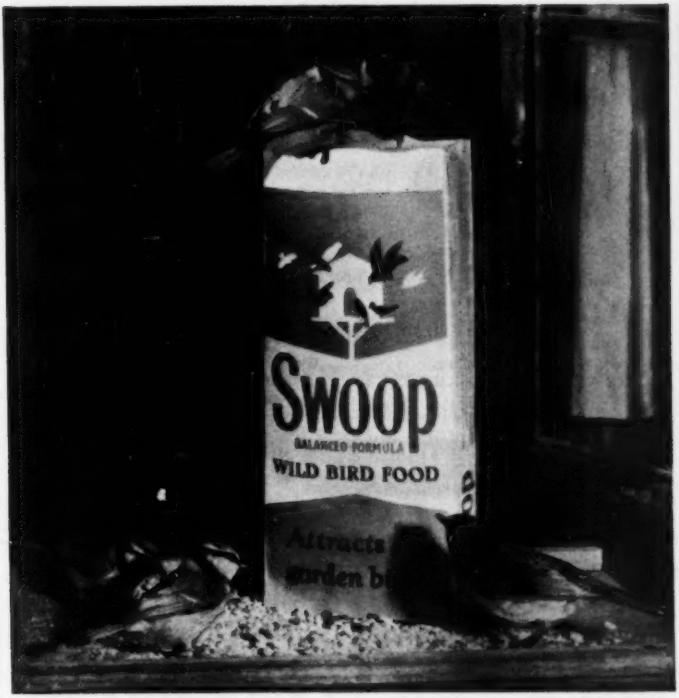

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British Birds

Vol. 54 No. 9

SEPTEMBER 1961

The relationship between foot-movements and feeding in shore birds

By John H. Sparks

Department of Zoology, Queen Mary College, University of London

I SHOULD LIKE to make some observations which may serve to cast a different light upon the subject of foot-movements in shore birds, since in the literature there is a tendency to associate this behaviour with the luring of worms to the surface of the substratum. Swennen and van der Baan (1959) refuted this for marine worms, but, together with Simmons (1961), tended to propagate the idea that paddling movements have such a function when the birds are feeding on grassland.

At the outset I should like to consider two points:

(i) the importance of marine worms (polychaetes) and earthworms (oligochaetes) in the diet of the birds which display the foot-movements;

(ii) the effect of foot-movements on worms beneath the surface of the soil.

The importance of worms in the diet of birds

Polychaete worms are an important component of the invertebrate fauna of all shores, whether sandy or predominantly muddy, and there is little doubt that birds do take these organisms when circumstances permit. However, my observations on shore birds (which for the purposes of this discussion include both waders and gulls) seem to indicate that polychaetes are not a very dominant source of food. Two very common nereid worms of the muddy shore are *Nereis diversicolor* and *Perinereis cultrifera*, both of which reach a length of several inches. This represents a reasonable size when compared with the length of, say, a Dunlin (*Calidris alpina*). If polychaetes did form a considerable part of the food of our shore waders and gulls, tussles

between individual birds and worms would be a far more common sight than I have experienced. If analogies are sought, Blackbirds (*Turdus merula*) and Robins (*Erithacus rubecula*) are often observed in the act of extricating large oligochaete worms (*Lumbricus* sp.?) from garden lawns. Furthermore, Common Gulls (*Larus canus*) can often be seen devouring large worms on wet meadows or playing fields in our suburbs, but they are very rarely to be found loosening Lugworms (*Arenicola marina*) and other marine worms from the sandy and muddy shores where prodigious castings bear witness to the abundance of these animals.

At the same time, a consideration of the ecology of polychaete worms on the shore reveals that most of their population is inaccessible to such smaller waders as Dunlins and Sanderlings (*Crocethia alba*), and possibly also Redshanks (*Tringa totanus*), so that any inclusion of these marine bristle worms in the diet of these waders is fortuitous. A systematic search of the intertidal zone at Walton-on-the-Naze, Essex, which I made with a view to investigating the possible sources of food there for shore birds, showed that such species as the nereid worm *N. diversicolor* were always buried deeply in the London Clay substratum and quite inaccessible to smaller waders—although not deep enough to preclude them falling easy prey to the longer-billed Curlews (*Numenius arquata*) and Oystercatchers (*Haematopus ostralegus*). The bound shingle and sand overlying the London Clay was remarkably free from "worms", but underneath slabs of concrete of varying sizes lying about as a result of the disintegration of coastal defences, the mud was honeycombed with the mucous-lined burrows of the polychaete *P. cultrifera*. There was no evidence that their galleries extended far beyond the safety of the slabs.

It seems that, in the habitat which I have studied, most of the intertidal zone occupied by feeding birds is almost devoid of polychaetes excepting the sedentary Lugworms which, when reposed in the sand, are outside the distance penetrated by the bills of small waders and gulls. On other shores terebellid polychaetes such as *Lanice conchileger* may be abundant and could be utilised as food, but this is a sedentary tubiculous species with but limited powers of movement. Foot-trembling by Ringed Plovers (*Charadrius hiaticula*), paddling by gulls and jumping or fidgeting movements by Dunlin can be observed at Walton-on-the-Naze, but on no occasion have I seen a bird intercept and devour a worm after making these movements.

The effect of foot-movements on worms

It is apparent that much of the evidence for the surfacing of worms in response to gentle agitation of the substratum is confused and inconclusive, and simulation of the paddling activity of a gull on a wet

piece of grassland known to hold earthworms yielded negative results. Common Gulls perform paddling movements on wet grassland and are particularly efficient in detecting earthworms—two facts which early observers may have correlated and so confused cause and effect. If ground is flooded, earthworms tend to rise to the surface, probably in response to a deficiency of oxygen, and fall easy prey to birds.

The function of foot-movements

Paddling movements do take place on the shore, but, in their speculations as to the function of this behaviour, many writers have missed out an important step in the development of a logical argument. The repetitive raising and lowering of the feet does agitate the substratum, but it may be wise to look more closely at the effects before considering the function.

Most shores are composed of silt, sand and larger particulate matter, but a medium consisting of sand and more than one per cent organic matter displays the property of thixotropy. Chapman and Newell (1947) made a study of this phenomenon in relation to the burrowing activities of Lugworms. They found that resistance to penetration is greatly decreased after mechanical agitation which gives rise to the "quick sand" effect well known to anyone who has walked a sandy shore. These findings have some relevance to the problem under discussion since any activity which serves to agitate the substratum will reduce it to a semi-fluid consistency. Any organism lying reposed in a thixotropic medium will immediately begin to move to firmer ground as the agitation causes the surrounding area to become unstable. The organisms near the surface will rarely be worms, but the mid-shore at Walton is inhabited by innumerable amphipods (particularly *Bathyporea pelagica* and *Gammarus* sp.) and Sand Shrimps (*Crangon vulgaris*). These can be detected easily by agitating the substratum with vertical movements of one's fingers on the surface. A sudden line of turbulence in the semi-fluid sand will mark the course of an amphipod scurrying for the safety of firmer sand.

Gulls often perform these movements in shallow pools left by the receding tide and it appears that under these conditions their feet would tend to sink beneath the surface, stirring up the sand and mud in a very efficient way (see also Swennen and van der Baan 1959). I saw Common Gulls and Black-headed Gulls (*Larus ridibundus*) pick objects deftly from the surface to their left and right while "paddling" in pools. I did attempt to simulate these movements with the undersides of my fingers facing upwards and found that the only detectable sources of food were small prosobranch gastropods of the species *Hydrobia ulvae*. Newell (1960) recently found that at low tide this small intertidal snail migrates beneath the surface of the muddy sand and

emerges to swim in the plankton as the tide rises over the flats. This fits in nicely with my own observations.

In conclusion, I would tentatively put forward the hypothesis that foot-tapping and paddling are adaptations to exploit the properties of intertidal muddy sand, in order to expose or incite movement in cryptic invertebrates of the intertidal zone. It is well known that the behaviour of birds is rather unadaptable to unusual situations and I have long held the view that the paddling of gulls on grassland is a direct result of this inflexibility. On the shore the paddling activities have some functional significance; on land the immutable feeding or hunting patterns are preserved, but the capture of earthworms near the surface and trampling movements are in no way related as cause and effect.

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Long-billed and Short-billed Dowitcher specimens in the British Museum

By Frank A. Pitelka

Museum of Vertebrate Zoology, University of California

UNTIL RECENTLY all the British and Irish records of dowitchers or "Red-breasted Snipe" have been assigned to the one species, *Limnodromus griseus*, recognised by American ornithologists (see A.O.U. Check-list 1931; Peters 1934). However, the excellent work of Rowan (1932) first called attention to evidence that there were really two species of dowitchers in the New World and subsequent studies have supported and extended his conclusions (Pitelka 1950, especially pp. 1-2 and 63-64 where a historical résumé of the problem is given). The taxonomic conclusions set forth in my 1950 paper were followed in the latest edition of the A.O.U. Check-list (1957). In brief, the Short-billed Dowitcher (*L. griseus*) breeds in subarctic parts of Canada and southern Alaska, whereas the Long-billed Dowitcher (*L. scolopaceus*) is an arctic species nesting in western and northern Alaska,

and in extreme north-western Canada and north-eastern Siberia.*

The question whether the British and Irish records included both species then arose. During a year spent in England in 1957-58, I took occasion to examine the specimens available in the British Museum (Natural History) in London, and I found that three had been taken in Britain. Two of these are Short-billed Dowitchers and probably refer to *L. g. griseus,* the easternmost of the three races of this species: one (No. 83.11.10.44) was killed in Middlesex in 1862, while the other (No. 50.11.5.37) is said to have been obtained in Cambridgeshire in 1843 (but see Nisbet 1961). The third specimen (No. B202A in the Vellum Catalogue) is a juvenile male taken in Devonshire, probably in 1801, and is certainly a Long-billed Dowitcher.

As this is the first proof of the occurrence of the recently separated Long-billed species, I should like to set down the evidence on which my identification was based. Firstly, the measurements fall within the range of males of *L. scolopaceus* (see Table 17 in Pitelka 1950). The wing is 143 mm., the bill 63 mm. and the tarsus 38.6 mm. Similar measurements, however, could be obtained from a juvenile female of the eastern race of the Short-billed Dowitcher (see Table 24 in Pitelka 1950). The specimen is dirty, but its colour characters are clearly diagnostic. Its under-parts are buffy *grey* to white, with a minimum of distinct speckles or dots, as is true of *L. scolopaceus* (not predominantly warm buffy with numerous small, sharply clear dots over the lower neck and breast, as in *L. griseus*). The juvenile feathers remaining on the back are dark, edged narrowly with dull buff (not edged broadly with comparatively bright buff, along with buff subterminal marks, to the extent that the buff almost prevails over the ashy brown). The tertials are dark, again merely edged narrowly with buff (not with broad buff edgings plus irregular subterminal bands of buff). The rectrices are dark, the blackish-brown bands being broad (not about the same width as the white bands). Most, but not all, of these points are reasonably well illustrated by plates 7, 8 and 9 in my 1950 paper wherein the characters distinguishing the juvenile plumages of the two dowitchers are also summarised in Table 4 (reproduced as Table 4 in Nisbet 1961).

On the strength of this specimen I concluded that the Long-billed Dowitcher should be added to the British and Irish list. Incidentally, I have also examined the details of two sight records which I consider

*It should be added that an Asiatic species, the Snipe-billed Godwit ("*Limnodromus*" *semipalmatus*), is similar to the American dowitchers and also shows certain resemblances to the true godwits (*Limosa*), but is doubtfully connected with either. At the moment it is usually placed in a monotypic genus *Pseudoscolopax* (see Pitelka 1948, Sutton 1949). Its field characters are briefly treated in the paper which follows (Nisbet 1961).

refer to this species. These concern the birds seen near Brookland, Kent, in October 1946 (Beesley *et al.* 1947) and at Thorney Island, Sussex, in November 1959, a photograph of which is reproduced as plate 56b in this issue.

It might be thought that the Long-billed Dowitcher would occur only very rarely in Europe because, so far as is known now, it breeds no further east on the arctic coast of America than Franklin Bay, Northwest Territories. Yet the records of juvenile Long-billed Dowitchers taken in America in September and October, the main time of their autumn movements, include one for Nova Scotia and nine for New Hampshire, Massachusetts and New York (Pitelka 1950, pp, 25 and 70-71). For the same months and area there are only two specimens of older birds, one killed in September in its first complete moult and so about fourteen months old, the other obtained in October in adult winter plumage. Juveniles thus well outnumber older birds in this sample and there is evidently a wide fanning out over Canada of south-bound juveniles in autumn, with the result that they reach the Atlantic coast of Canada at the latitude of Nova Scotia and possibly even further north. In the light of these considerations, the probability of the occurrence of the Long-billed Dowitcher in Europe is higher than would be estimated merely on the basis of the breeding range and the main migratory movement through the western two-thirds of the United States.

I am indebted to P. A. D. Hollom and H. G. Alexander for their continuing interest in and encouragement of my preparation of this paper. I also wish to thank J. D. Macdonald and R. W. Sims for kindnesses during my visits to the British Museum (Natural History).

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Dowitchers in Great Britain and Ireland*

By I. C. T. Nisbet

(Plates 55-58)

THE PAPER BY PITELKA (1961) in this issue of *British Birds* shows that both the Long-billed Dowitcher (*Limnodromus scolopaceus*) and the Short-billed Dowitcher (*L. griseus*) have occurred in the British Isles. At the request of the editors, I am summarising here all the records of these two North American species in Great Britain and Ireland, and listing the field-characters by which some of the future visitors may be specifically identified. For completeness, I am also including notes on the Asiatic Dowitcher (*L. semipalmatus*), which might also occur in Europe as a vagrant.

THE NORTH AMERICAN DOWITCHERS

Long-billed (*L. scolopaceus*)

According to Pitelka (1950), the Long-billed Dowitcher breeds only on the north and west coasts of Alaska and in adjacent parts of Siberia and Canada (though this last was not accepted by Snyder 1957). It winters from California, Louisiana and Florida south to Mexico and Guatemala; it migrates mainly through the western half of North America, but small numbers also occur in autumn on the Atlantic coast from Nova Scotia southwards.

Short-billed (*L. griseus*)

Pitelka (1950) recognised three subspecies of Short-billed Dowitcher. The breeding range of the eastern race (*L. g. griseus*) had not been discovered in 1950, but Pitelka's suggestion that it must lie in the Ungava peninsula, east of Hudson Bay, has recently been confirmed† (Hall and Clement 1960). It migrates chiefly along the east coast of North America to winter in the eastern Caribbean, from Florida south to the coast of Brazil. The inland race (*L. g. hendersoni*) breeds from the west coast of Hudson Bay west to northern Alberta and north to the Great Slave Lake,† and winters around the Caribbean and in northern South America; it migrates mainly through the centre of the continent, but also occurs in fair numbers on the Atlantic coast from New England southwards. The third race (*L. g. caurinus*) appears to be confined to the Pacific coast, breeding in Alaska and wintering from California to Peru.

*A publication of the *British Birds* Rarity Records Committee.

†Note that the breeding ranges of *griseus* and *hendersoni* are erroneously interchanged in the map in Dementiev and Gladkov (1951).

Autumn migration on the Atlantic coast

The migration periods of the two species on the Atlantic coast differ considerably. The Short-billed Dowitcher is a very early migrant, arriving in the United States from the beginning of July onwards, and reaching peak numbers before the end of the month, when flocks of thousands occur on the coast between Massachusetts and New Jersey. The numbers drop off rapidly during August, and only stragglers are left in the north-eastern U.S.A. after the second week in September. The dates of the main autumn passage are given as from early July to early September in Massachusetts (Griscom and Snyder 1955), from 6th July to 24th August in New Jersey (Urner and Storer 1949) and from 15th July to 5th September in Maryland (Stewart and Robbins 1958).

The Long-billed Dowitcher is a very late autumn migrant on the Atlantic coast, arriving mainly after mid-September. J. Jehl Jr. (*in litt.*) has seen a flock in New Jersey as early as the middle of August, but the earliest juvenile examined by Pitelka (1950) was collected in Massachusetts on 29th August. (Pitelka also listed four July records of one-year-old birds, but regarded them as summering non-breeders.) The main passage period in New Jersey is from 19th September to 27th October (Urner and Storer 1949), and that in Massachusetts is from early October to early November, with stragglers to 21st November (Griscom and Snyder 1955).

On the basis of collected specimens, Pitelka (1950: 48) estimated that *L. g. griseus* outnumbers *L. g. hendersoni* by two or three to one in the south-eastern U.S.A., and that both races together outnumber *L. scolopaceus* on the Atlantic coast by at least ten to one. At least for the north-eastern U.S.A., however, both these ratios are probably much too low, probably because relatively little collecting has been done during the main passage of *L. g. griseus* in July. Figures quoted by Urner and Storer (1949), Griscom and Snyder (1955), Bailey (1955), Nisbet (1959) and J. Jehl Jr. (*in litt.*) suggest that in autumn Short-bills outnumber Long-bills in the north-east by a hundred or even five hundred to one.

DOWITCHERS IN THE BRITISH ISLES

Excluding those rejected by Saunders (1899), I have traced 48 records of dowitchers in Great Britain and Ireland, but seven of these cannot now be regarded as authentic.

Rejected records

(1) A specimen of *L. griseus*, labelled "Cambridgeshire 1843" is in the British Museum (Natural History) in London (Catalogue No.

50.11.5.37). This specimen has never been recorded in print, but was acquired by the museum in 1850 from J. Baker, a taxidermist of Melbourn, Cambridgeshire. Baker was described as "a reliable naturalist" by Lack (1934), but many other specimens with British labels which he sold to the museum are highly improbable, and in the absence of independent evidence it seems best to regard them all as doubtful (see also Stevenson 1870: 349).

(2) The first specimen for Kent, listed by Ticehurst (1909) as "quite possibly shot in the county", lacks adequate data. The specimen is now in the Royal Albert Memorial Museum, Exeter, labelled "probably Kent" (*fide* C. V. A. Adams).

(3) Another specimen is said to have been shot in Kent in mid-December 1902 (Westrapp 1902), but the published evidence (Ticehurst 1909) is not convincing.

(4) The third Kent specimen (Ticehurst 1907) is one of the controversial "Hastings records", which are now regarded as doubtful (Hollom 1960).

(5) A Sussex specimen (Parkin 1912), the only spring record for the British Isles, must be rejected for the same reason as (4). The specimen is now in the Booth Museum, Brighton (No. 407).

(6) A sight-record of a flock in Kent on 5th November 1935 (Harrison 1953) is not convincing.

(7) A sight-record (Popham 1944) of one on Stanpit marshes, Hampshire, on 5th September 1943, "with Purple Sandpipers (*Calidris maritima*) and other waders", is not convincing.

Specimen records

Of the 23 fully acceptable specimen records, listed in Table 1, I have traced eight which still survive in museum collections. The remaining fifteen were accepted by Saunders (1899) or Witherby and Ticehurst (1908) and are probably reliable, although some of them seem to have been accepted on very flimsy evidence. In Table 1 I have included references to the published documentation of each record, and also given the characters on which my identifications are based (see Tables 3 and 4).

Sight-records

Of the 18 fully acceptable sight-records, listed in Table 2, seven can be specifically identified according to the criteria given later in this paper, but the remaining 11 are indeterminate. In most cases full field descriptions have already been published, but in a few other cases I have added unpublished field notes.

TABLE 1—SPECIMENS OF DOWITCHERS (*Limnodromus* spp.) FROM GREAT BRITAIN AND IRELAND

Locality	Date	References and notes
A. Identifiable as Long-billed Dowitchers (*L. scolopaceus*)		
Devon	October, probably 1801	Now in British Museum (Nat. Hist.), London (No. Vellum B 202 A). First winter male; identified by Pitelka (1961); weight 94 gm. (Montagu 1802)
Horsey, Norfolk	9th October 1845	Stevenson 1870. Now in Castle Museum, Norwich (No. 25.85). First-winter male; identified by the writer from patterning of scapulars and rectrices and from bill-length (62 mm.)
St. Mary's, Scilly Is.	3rd October 1857	Harting 1880. Specimen untraced. "Bill 63.5 mm.; neck smoke grey; back and scapulars black, edged with rusty red; tail . . . barred with narrow black and white lines; under tail-coverts barred; shot on a fresh-water pond" (Rodd 1857)
Largo, Fife	September 1867	Now in Royal Scottish Museum, Edinburgh (No. 1889.23). Immature; bill 70 mm. (measured by A. R. Waterston and G. Waterston; erroneously given as 57 mm. by Gray 1872)
Portleix (=Maryborough), Leix	29th September 1893	Kennedy *et al.* 1954. Now in National Museum of Ireland, Dublin (No. 1894.65). Immature female; bill 69 mm. (measured by J. S. Jackson); labelled "Oct. 1893"
Tipperary	about 9th October 1893	Kennedy *et al.* 1954. Specimen untraced. Bill 67.5 mm.; tarsus 40.5 mm.; wing 152 mm. (Barrett-Hamilton 1893)
B. Identifiable as Short-billed Dowitchers (*L. griseus*)		
Stone Bridge, Middlesex	autumn 1862	Harting 1866. Now in British Museum (Nat. Hist.), London (No. 83.11.10.44). Examined by Pitelka (1961), who reports (*in litt.*) that the specimen almost certainly belongs to the eastern race (*L. g. griseus*). Stated by Harting to have been obtained in October, but according to Pitelka the plumage indicates it was shot not later than early September
Christchurch Harbour, Hampshire	September 1872	Kelsall and Munn 1905. Now in City Museums and Art Gallery, Leicester. Male, largely in breeding plumage; identified by the writer from ventral plumage (Bb on Pitelka's 1950 classification). Race not determinable; bill 60 mm., tarsus 35 mm., wing 144 mm.
Stanpit marsh, Hampshire	7th October 1902	Kelsall and Munn 1905. Now in City Museums and Art Gallery, Leicester. Juvenile female; identified by the writer from characters listed in Table 4. Bill 65.2 mm., tarsus 35 mm., wing 146 mm.; hence identifiable as *L. g. hendersoni* (*cf.* Table 3)

C. Unidentified specimens

Cumberland	25th September 1835	Macpherson and Duckworth 1886
Yarmouth, Norfolk	October 1836	Stevenson 1870
Devon	about 1837	D'Urban and Mathew 1895
Yarmouth, Norfolk	early October 1841	Stevenson 1870
South Huish, Devon	"winter" 1855	D'Urban and Mathew 1895
Norland Moor, Yorkshire	September 1864	Nelson 1907
Battersea, Middlesex	before 1866	Harting 1866
Lanarkshire	before 1869	Gray 1872
Southport, Lancashire	about September 1873	Oakes 1953
Tetney, Lincolnshire	15th August 1882	Cordeaux 1882
Crinan, Argyll	2nd September 1891	Harvie-Brown and Buckley 1892
? Lancashire	September 1891	Obtained in Preston market: not accepted as Lancashire record by Oakes (1953)
Penllergaer, Glamorgan	before 1899	Cardiff Nats.' Soc. 1901
Tresco, Scilly Is.	12th-17th September 1943	Dorrien-Smith 1945. Now in collection at Tresco Abbey (*fide* J. L. F. Parslow); not yet examined

TABLE 2—SIGHT-RECORDS OF DOWITCHERS (*Limnodromus* spp.) FROM GREAT BRITAIN AND IRELAND

Locality	Date	References and notes
A. Identifiable as Long-billed Dowitchers (*L. scolopaceus*)		
Brookland, Kent	9th-13th October 1946	Beesley *et al.* 1947
Thorney Island, Sussex	15th-22nd October 1950	Douglas and Jenkins 1951
Ribble marshes, Lancashire	28th October 1951	Harrison *et al.* 1952
Killingworth, Northumberland	28th September-1st November 1959	Listed as indeterminate by Pyman (1960b); later identified from notes and photographs subsequently supplied by J. A. Bailey
Thorney Island, Sussex	2nd-11th November 1959	Pyman 1960b; Harber 1960; see also plate 56b
Akeagh Lough, Kerry	18th-28th September 1960	Ruttledge 1961
B. Identifiable as Short-billed Dowitcher (*L. griseus*)		
Cley and Salthouse, Norfolk	5th October-3rd November 1957	Seago 1958; for details see APPENDIX on page 357 and plate 57
C. Indeterminate records		
Zennor Moor and Marazion Marsh, Cornwall	19th October-7th November 1937	Walmsley 1938
Scolt Head, Norfolk	29th October 1950	Douglas and Jenkins 1951
Scolt Head, Norfolk	14th October 1954	Pochin 1955
North Slob, Wexford	29th September 1956	Ennion *et al.* 1957
Hule Moss, Berwickshire	20th-30th September 1958	Pyman 1960a
Kilbarrack, Dublin	19th October-1st November 1958	Pyman 1960a; Ruttledge 1959; probably *L. scolopaceus*

TABLE 2—SIGHT-RECORDS *continued*

Blennerville, Kerry	3rd December 1958	Pyman 1960a
Frodsham, Cheshire	18th October 1959	Pyman 1960b
Gullane Point, East Lothian	29th September 1960	Ablett *et al.* 1960
Hamilton, Lanarkshire	8th-12th October 1960	Ablett *et al.* 1960; probably *L. scolopaceus*
Akeagh Lough, Kerry	11th October-26th November 1960	Ruttledge 1961; probably *L. scolopaceus*

Summary

Up to and including 1960, there were 41 authenticated records of dowitchers in Great Britain and Ireland. Of these, 12 (six specimens and six sight-records) can now be referred to the Long-billed form (*L. scolopaceus*) and four (three specimens and one sight-record) to the Short-billed form (*L. griseus*); of the three specimens of *L. griseus*, one is identifiable as *L. g. hendersoni* and another is almost certainly *L. g. griseus*. Most of the remaining birds were recorded during the period (late September to early November) of the main migration of *L. scolopaceus* on the Atlantic coast of North America, and in many cases the field-characters and/or habitat preferences of the birds are also suggestive of *L. scolopaceus*. It seems safe to conclude that most of the British dowitchers have belonged to this species.

At first sight it seems surprising that *L. scolopaceus* should be more frequent in Europe than *L. griseus*, since the latter is at least a hundred times commoner on the east coast of North America. However, as I have already pointed out (Nisbet 1959), some other Alaskan waders are especially prone to reach Britain as vagrants, perhaps because of their tendency to migrate eastwards through North America at the outset of their autumn migration.

FIELD IDENTIFICATION

Except for the remote possibility of confusion with the Asiatic Dowitcher (discussed below), a competent observer in the British Isles should have no difficulty in identifying a North American dowitcher as such. Dowitchers are medium-sized waders, comparable in size and shape to Redshanks (*Tringa totanus*), but with relatively shorter legs and with long snipe-like bills (plates 55-58). In winter plumage they are grey above and whitish below, more or less spotted or barred on the flanks, and have noticeable whitish eyestripes (plate 56a); immatures in autumn are suffused with grey or buff on the breast, and more or less prominently marked with buff on the upper-parts (plates 55, 56b and 57). In flight they show indistinct pale tips to the secondaries, and a prominent white patch in the middle of the back, contrasting with the darker (barred) tail.

The two North American species are very difficult to distinguish with certainty in the field, chiefly because both are very variable, so that there is a certain amount of overlap in most field characters: this overlap is especially marked between the Long-bill (*L. scolopaceus*) and *L. g. hendersoni*, the more western of the two races of Short-bill to have occurred in Great Britain. However, well-marked individuals of the two species are very different, and some should be identifiable even by observers without experience of either. The problem of identification has been discussed recently by Pough (1951), Small (1958), Peterson (1960, 1961) and Eisenmann (1961), but none of these authors has given a complete discussion of all the important field characters.

Bill-length

There is much overlap in bill-measurements between the two species (Table 3), but extreme Long-bills (with bills twice as long as the head) can often be recognised by this character alone, especially if the bird can be photographed (plates 56b and 58). Some Short-bills have bills only one and a half times as long as the head (plate 56a), but this is rarely conclusive in the field since some Long-bills have bills almost as short.

Body-size

Long-bills appear in the field to average 5-10% larger even than *L. g. hendersoni*, a difference which is accentuated when the two species are together by the slightly longer legs of the Long-bill. (This difference is not shown by the weight measurements listed in Table 3, but J. Jehl Jr. *in litt.* tells me that the samples on which the figures are based are too small to be representative.) This feature is of little use in the field unless both species are together, but large Long-bills look at least as large-bodied as Redshanks, whereas most Short-bills are noticeably smaller. Again there is much overlap.

Wing-length

Although Long-bills are larger-bodied than *L. g. hendersoni*, their wings average slightly shorter (Table 3). This is reflected on the standing bird by a difference in the position of the wing-tip: on most Long-bills it falls short of the tip of the tail by up to half a centimetre, while on most Short-bills it extends up to half a centimetre beyond the tail (plates 56a and 57a). There is probably less overlap in this character than in bill-length or body-size, but until it has been investigated more fully in North America it is only safe to rely on it on well-marked individuals. It should also be stressed that a bird may occasionally fold its wing into an unusual position (e.g. plates 57b and 57c), so that

TABLE 3—MEASUREMENTS AND WEIGHTS OF DOWITCHERS (*Limnodromus* spp.) AND BAR-TAILED GODWITS (*Limosa lapponica*)

		Wing (mm.)	Culmen (mm.)	Tarsus (mm).	Weight (gm.)
Limnodromus g. griseus	♂♂	133-147 (139.3)	52.0-61.1 (56.08)	32.0-38.9 (35.23)	100-123 (105.7)
(Short-billed Dowitcher)	♀♀	137-147 (141.2)	53.9-65.1 (59.95)	33.0-39.5 (35.76)	82-153 (119.3)
Limnodromus g. hendersoni	♂♂	135-150 (141.9)	50.8-61.2 (57.14)	33.8-39.3 (36.62)	91-145 (108.4)
(Short-billed Dowitcher)	♀♀	137-152 (146.2)	56.2-67.8 (61.86)	34.0-41.3 (37.88)	95-140 (114.8)
Limnodromus scolopaceus	♂♂	132-147 (140.0)	54.4-65.7 (61.76)	35.0-40.5 (37.81)	90-114 (99.9)
(Long-billed Dowitcher)	♀♀	139-152 (144.8)	65.8-78.5 (71.84)	38.1-44.6 (41.13)	93-131 (114.7)
Limnodromus semipalmatus	♂♂	164-172 (169)	74.7-81.9 (80.1)	45.8-52.7 (50.7)	168-194 (181)
(Asiatic Dowitcher)	♀♀	168-181 (174)	78.3-87.1 (82.9)	47.6-54.0 (50.8)	165-245 (190)
Limosa lapponica	♂♂	202-216	72-83	46-51	160-298 (252)
(Bar-tailed Godwit)	♀♀	211-227	95-106	—	255-293

The figures given are the observed extremes, with the means in parentheses. Figures for the Bar-tailed Godwit have been derived from Witherby *et al.* (1941) and Weigold (1926); weights of *L. g. griseus* have been supplied by J. Jehl Jr.; the remaining data have been drawn from Pitelka (1948 and 1950: Tables 7, 20, 21, 24). The figures for *L. g. griseus* and *L. scolopaceus* are confined to young birds on migration; those for *L. g. hendersoni* are averages from birds from all parts of the breeding range.

prolonged observation may be needed to determine the "normal" position of the wing-tip.

Plumage

There are differences between the adult breeding plumages of the two species, but nearly all the British records have been of juvenile or first-winter birds, so only these plumages will be considered here. Table 4 lists the differences between juveniles of the two species; the first-winter birds are much like winter adults, but some or all the juvenile tail-feathers and some juvenile scapulars are retained at least until November. Hence if a young dowitcher could be trapped in the British Isles it should be identifiable from the markings on the tail-feathers and scapulars alone.

In the field, the juvenile Short-bill is reasonably distinctive, being prominently buffy (usually finely freckled with darker markings) on the breast and fore-neck, and prominently marked with bold buff streaks and freckles on the upper-parts; the buff crown and light

TABLE 4—PLUMAGE DISTINCTIONS BETWEEN JUVENILE LONG-BILLED DOWITCHERS (*Limnodromus scolopaceus*) AND SHORT-BILLED DOWITCHERS (*L. griseus*)

(Copied, with permission, from Table 4 in Pitelka 1950)

	L. scolopaceus	*L. griseus*
Colour of dorsal patterning	Dark (reddish buff)	Light (light buff)
Extent of patterning	Buff areas narrow and linear; limited to feather margins	Buff areas relatively wide, their margins medial to rhachis often irregular; occurring on feather margins and also as subterminal and submarginal marks and bars
Edging of longer tertials	Very narrow and sometimes obsolescent; subterminal bars occasional	Conspicuous without exception; subterminal bars characteristic
Sides of face and neck	More grey	More buff
Barring of tail feathers	Wide, almost black	Bars less wide, dull brownish black
Colour of upper breast and neck	Light grey, indistinctly marked, washed lightly with dull buff	Prominently buffy, usually speckled

throat often give it a noticeably "capped" appearance. In contrast, the juvenile Long-bill is much greyer on the crown and under-parts, only slightly buffy and never noticeably spotted on the breast, and darker above, with relatively narrow feather-edgings which appear reddish-buff if seen well in good light. However, these points require much care, since some Short-bills are sufficiently warm buff to appear generally reddish in the field, while the moult to first-winter plumage makes *L. griseus* look much greyer and more like *L. scolopaceus*. In first-winter birds only two plumage characters are of any use in the field: some Long-bills still show *reddish*-buff edgings to some feathers on the upper-parts; and their under tail-coverts are usually prominently barred right across, whereas those of the Short-bill are marked with irregular dark spots.

Voice

Dowitchers are credited in the literature with a wide variety of noises, but in my experience only a few distinct calls are given by autumn migrants. The usual flight-note of Short-bills is a triple *küt-küt-küt* or *chü-chü-chü*; this call faintly resembles that of a Lesser Yellowlegs (*Tringa flavipes*) or a weak cry of a Greenshank (*T. nebularia*), but is faster and much less musical than either, with a metallic quality which slightly suggests the rattling call of a Turnstone (*Arenaria interpres*). The *küt* note is often uttered singly, grading over into a sharp *kyit* which is sometimes given in a rattling series when the bird is startled. The usual call of Long-bills is a shrill, prolonged *keeek*, sometimes uttered in groups of three or more, and becoming a rippling trill if the bird is flushed suddenly.

The difference in flight-notes is usually considered in North America to be the most reliable field distinction between the two species, but Eisenmann (1961) and others have pointed out that it has never been *proved* that one species does not occasionally give the call of the other. However, such occasions must be very rare, since a number of observers with wide experience of these birds (including J. Jehl Jr., J. Baird and R. T. Peterson) have told me that they have *never* heard any one individual give the calls of both species.

Habitat

On migration the Short-billed Dowitcher is primarily a bird of open coastal mudflats, associating normally with such species as Grey Plover (*Charadrius squatarola*), Semipalmated Sandpiper (*Calidris pusilla*) and Dunlin (*C. alpina*), whereas the normal habitat of Long-bills is fresh-water pools, preferably with muddy bottoms and with some vegetation around the edges. Pitelka (1950) found a 90-95% segregation of the two species into fresh-water and salt-water habitats

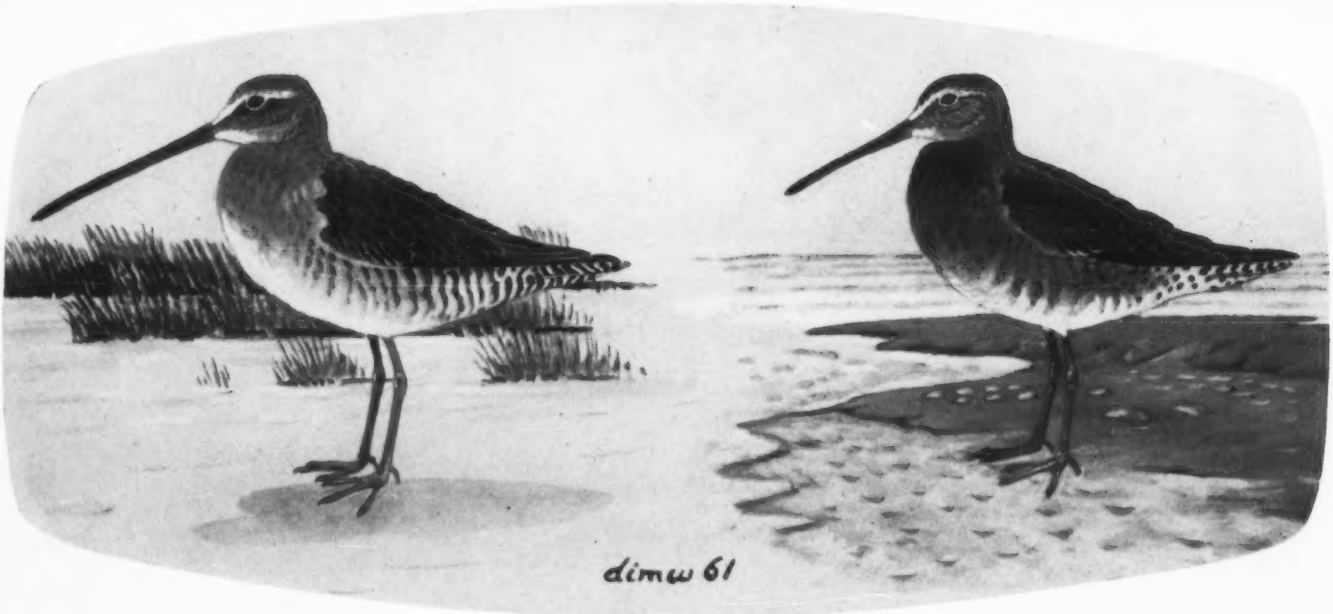

PLATE 55. Juvenile Long-billed (*left*) and Short-billed Dowitchers (*Limnodromus scolopaceus* and *griseus*). In spite of their English names, there is a considerable overlap in bill-length and many individuals are not so well marked as these extreme examples. In juvenile plumage the Short-billed is much more buff below, with wider buff edgings on the feathers of the upper-parts and spotted under tail-coverts (these are barred on the Long-billed). Most of the plumage differences are lost, however, when the birds moult in late autumn. The Long-billed is slightly larger and has relatively shorter wings which do not quite reach the tip of the tail (but see plate 57). It also tends to frequent marshes while the Short-billed prefers mud-flats (pages 343-357) (*sketch: D. I. M. Wallace*)

PLATE 56. Three Short-billed Dowitchers (*Limnodromus griseus*) and a lone Turnstone (*Arenaria interpres*) to show the size, Florida, winter (*photo: Allan D. Cruickshank*). Below, Long-billed Dowitcher (*L. scolopaceus*) with a sizeable bill, Sussex, November 1959 (*photo: G. des Forges*). Note the positions of the wing-tips

PLATE 57A. Short-billed Dowitcher (*Limnodromus griseus*) in the first-winter plumage, Norfolk, October 1957. Note the spotted under tail-coverts and the projection of the wing-tips a little beyond the tail (see APPENDIX, page 357) (*photo: G. des Forges*)

PLATES 57B and 57C. The same bird, its spotted under-tail again conspicuous, shows how the wing-tips can seem to fall short when not folded properly (page 349). Below, comparison with Dunlin (*Calidris alpina*) behind indicates the size (*photos: R. P. Bagnall-Oakeley*)

PLATE 58. Long-billed Dowitcher (*Limnodromus scolopaceus*), Florida, spring. This is in breeding plumage, and more speckled and barred than those in the winter pictures. The barring on the under-tail can be seen again, and the wings, though not completely folded, would fall short of the tail (*photo: Allan D. Cruickshank*)

in California. This segregation is probably not quite so strict in eastern North America, but even there it is probably exceptional for a Long-billed Dowitcher to spend long on an open mudflat, or for a Short-bill to spend long on a fresh-water pool unless it can flight to salt-water flats near-by.

Summary

With the probable exception of the voice, there is some overlap in all these characters. However, under favourable conditions for detailed observation, well-marked individuals can be positively and safely identified by means of a combination of the characters of wing-length, plumage and voice, provided that the other points mentioned above (bill-length, body-size and habitat) are consistent. If they are not, it is safest to regard the identification as probable only.

Many American authorities (e.g. Pough 1951, Small 1958, Peterson 1960, Eisenmann 1961) do not regard specific identifications based on the above characters as 100% certain, because they believe that the characters have never been "proved" to be diagnostic by collecting specimens previously identified in the field. However, Griscom and Snyder (1955) reported that such proof has been obtained "many times", and this has recently been supported by the work of J. Jehl Jr. (*in litt.*), who has collected many specimens of *L. griseus* on the mudflats of New Jersey, but has never yet encountered an individual which showed the characters here attributed to *L. scolopaceus*. Hence reliable specific identification is certainly possible in favourable circumstances. This should not be taken to imply that *all* birds can be identified in the field, even by experienced observers: a good many confusing individuals occur which are best left unidentified, at least until more work has been done in North America on the relative importance of the various characters.

THE ASIATIC DOWITCHER

A similar species, *Limnodromus* (*Pseudoscolopax*) *semipalmatus*, breeds in central Asia and might conceivably occur in Britain in the future. It has been referred to in the literature under various names—"Red-breasted Snipe", "Red-breasted Sandpiper", "Semipalmated Snipe", "Oriental Dowitcher" and "Snipe-billed Godwit"—but "Asiatic Dowitcher" seems more appropriate than any of these. Its scientific name is also in doubt, since some writers on Asiatic birds treat it as a subspecies of *L. griseus*, while Pitelka (1948) expressed doubts that it even belongs to the genus *Limnodromus*; the middle view was defended by Rand (1950). It breeds from the Baraba and Kulunda steppes (only 500 miles east of the European border) east to Mongolia, and winters from India east to Sumatra (Dementiev and Gladkov 1951);

there is a sight-record of a flock as far west as the Persian Gulf (Mengel 1948).

In general shape and plumage pattern the Asiatic Dowitcher resembles a Long-billed Dowitcher, but is considerably larger (about the size of a Greenshank *Tringa nebularia*), and is less spotted and barred below, especially in breeding plumage (for coloured plate see *Ibis*, 1909, plate VII). In all these respects it is intermediate between a Long-billed Dowitcher and a Bar-tailed Godwit (*Limosa lapponica*), and Dementiev and Gladkov (1951) even suggest that it cannot be distinguished from the latter species in the field. However, it is distinguished from both by a white wing bar at the bases of the primaries and secondaries (in addition to the white tips to the secondaries common to both *L. griseus* and *L. scolopaceus*) and by prominent black bars across the white back. Its voice on the breeding grounds is rendered *krū-rū*, *krū-rū* (Velizhanin 1926, Johansen 1960), but its call on migration has not been described. Breeding colonies are situated "on boggy meadows with muddy soil, small pools and sloping banks" (Velizhanin 1926); Mengel's (1948) winter birds were seen "on the shallow water of an inlet" and "scattered over several acres of mudflats".

SUMMARY

(1) The Short-billed Dowitcher (*Limnodromus griseus*) breeds in subarctic Canada and migrates in large numbers down the Atlantic coast of North America in July and August. The Long-billed Dowitcher (*L. scolopaceus*) breeds in Alaska and migrates in very small numbers down the Atlantic coast in October.

(2) There are 41 authenticated records of dowitchers in Great Britain and Ireland. Of these 12 (six specimens and six sight-records) can now be identified as *L. scolopaceus* and four (three specimens and one sight-record) as *L. griseus*. The majority of the indeterminate records probably refer to *L. scolopaceus*. Of the three specimens of *L. griseus*, one is identifiable as *L. g. hendersoni* and another is almost certainly *L. g. griseus*.

(3) There are small differences between the two species in bill-length, body-size, wing-length and plumage, and large differences in voice and habitat preference. Some (but not all) birds can be reliably identified in the field in favourable conditions.

(4) Notes are also given on the Asiatic Dowitcher (*L. semipalmatus*).

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there is a sight-record of a flock as far west as the Persian Gulf (Mengel 1948).

In general shape and plumage pattern the Asiatic Dowitcher resembles a Long-billed Dowitcher, but is considerably larger (about the size of a Greenshank *Tringa nebularia*), and is less spotted and barred below, especially in breeding plumage (for coloured plate see *Ibis*, 1909, plate VII). In all these respects it is intermediate between a Long-billed Dowitcher and a Bar-tailed Godwit (*Limosa lapponica*), and Dementiev and Gladkov (1951) even suggest that it cannot be distinguished from the latter species in the field. However, it is distinguished from both by a white wing bar at the bases of the primaries and secondaries (in addition to the white tips to the secondaries common to both *L. griseus* and *L. scolopaceus*) and by prominent black bars across the white back. Its voice on the breeding grounds is rendered *krü-rü, krü-rü* (Velizhanin 1926, Johansen 1960), but its call on migration has not been described. Breeding colonies are situated "on boggy meadows with muddy soil, small pools and sloping banks" (Velizhanin 1926); Mengel's (1948) winter birds were seen "on the shallow water of an inlet" and "scattered over several acres of mudflats".

SUMMARY

(1) The Short-billed Dowitcher (*Limnodromus griseus*) breeds in subarctic Canada and migrates in large numbers down the Atlantic coast of North America in July and August. The Long-billed Dowitcher (*L. scolopaceus*) breeds in Alaska and migrates in very small numbers down the Atlantic coast in October.

(2) There are 41 authenticated records of dowitchers in Great Britain and Ireland. Of these 12 (six specimens and six sight-records) can now be identified as *L. scolopaceus* and four (three specimens and one sight-record) as *L. griseus*. The majority of the indeterminate records probably refer to *L. scolopaceus*. Of the three specimens of *L. griseus*, one is identifiable as *L. g. hendersoni* and another is almost certainly *L. g. griseus*.

(3) There are small differences between the two species in bill-length, body-size, wing-length and plumage, and large differences in voice and habitat preference. Some (but not all) birds can be reliably identified in the field in favourable conditions.

(4) Notes are also given on the Asiatic Dowitcher (*L. semipalmatus*).

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notes, and R. P. Bagnall-Oakeley showed me his film of the 1957 Norfolk bird. J. Baird, P. A. Buckley, E. Eisenmann and J. Jehl Jr. have given me much helpful advice on field identification, and Jehl and Baird supplied detailed comments on an early draft of this paper. D. D. Harber provided a translation from *The Birds of the Soviet Union*. I am especially indebted to R. P. Bagnall-Oakeley, A. D. Cruickshank and G. des Forges for their photographs (plates 56-58), and to D. I. M. Wallace for preparing his sketch (plate 55) to my specifications.

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Appendix—Short-billed Dowitcher in Norfolk in October 1957

The dowitcher seen at Cley and Salthouse, Norfolk, between 5th October and 3rd November 1957 has been included in Table 2 as *L. griseus*. Since no plumage details were published with the original record (Seago 1958), and since there are only three other definite British records of this species (Table 1), the evidence for this identification is given below. It is derived from field-notes made by R. P. Bagnall-Oakeley, M. J. Carter and P. R. Colston, field-sketches by D. I. M. Wallace, and coloured films (later examined by the writer) by R. P. Bagnall-Oakeley.

The size, shape, bill-length and plumage pattern are well shown in the various photographs taken by Bagnall-Oakeley and G. des Forges (plate 57). At rest the wing-tips were noted as extending to the tip of the tail (Carter), or slightly beyond it (Wallace); the films suggested that they usually projected a few millimetres beyond the tail (plate 57a), although occasionally the wing was held so that they fell slightly short of the tail-tip (plates 57b and 57c). On 5th October the breast was strongly suffused with warm buff and slightly speckled, but it soon afterwards became almost uniform pale grey (films). The edgings on the upper-parts were described as pale grey-brown (Carter), light-brownish grey (Wallace), or pale greyish-buff (from films); close examination of the wing-coverts (Carter) and scapulars (films) showed that the buff markings were present as submarginal marks as well as tips and edgings. The whitish bars on the tail-feathers were very slightly wider than the dark bars (films). Under tail-coverts were spotted (plate 57b). According to Bagnall-Oakeley, the usual call was a triple note corresponding to the text-book rendering *do-witch-er*, but it also at times gave a single note; the latter call was the only one heard by Carter and Colston on 19th October, when it was described as a penetrating *quip* or *kip*, something akin to the calls of a Little Stint (*Calidris minuta*) or a phalarope (*Phalaropus* sp.), although much louder. The bird flew freely between two brackish lagoons and a fresh-water pond.

Mallard feeding from dead birds

By E. H. Gillham

THERE APPEAR TO BE few published accounts of ducks feeding from dead birds. *The Birds of the London Area since 1900* (1957, p. 133) mentions several observations of Mallard (*Anas platyrhynchos*) seizing and drowning House Sparrows (*Passer domesticus*) and on at least two occasions the victims were swallowed (*Royal Parks Report 1929:* 4). More recently, there has been a record of mine (*Brit. Birds*, 51: 425) of

a female Tufted Duck (*Aythya fuligula*) swallowing a two-thirds grown embryo from one of its own eggs.

Between June and August in the years 1958-61 inclusive, I made a total of 40 observations of Mallard feeding from dead birds in St. James's Park, London. In most cases the birds were already dead when the Mallard found them. The largest corpse was that of a Woodpigeon (*Columba palumbus*). Most attempts at eating were by single adults, but on one occasion five young Mallard about six weeks old were busy on a corpse the size of a Starling (*Sturnus vulgaris*). Not all the corpses were identifiable, but they may be summarised as follows:

Mallard (small downy ducklings)	4
Small downy ducklings of Mallard type	3
Tufted Duck (small downy ducklings)	5
Woodpigeon	1
House Sparrow	7
Starling-sized birds	19
Pigeon-sized birds	1

In two cases, one involving a House Sparrow and the other a small downy Tufted Duck, a Mallard was seen to do the actual killing and then attempt to eat from the corpse. Another House Sparrow and another small downy Tufted Duck were killed and then left by different Mallard, however, so killing is not always followed by attempted eating. Once, too, a downy Tufted Duck was attacked and left moribund by a female Mallard, but this duckling was finished off by a passing drake Mallard which promptly tried to eat it.

The efforts of the Mallard to eat from bird corpses were little different from their persistent struggles with large pieces of stale bread or large dead fish. Most of the corpses were floating in the water. The Mallard usually pulled at the body or wings, or vigorously shook the corpse to break off pieces. Where decomposition had set in, they pulled at the exposed flesh. They also made determined efforts to chew the heads of three House Sparrows, a duckling of Mallard type, a single downy Mallard and three downy Tufted Ducks. In one case the headless corpse of a small downy duckling, probably a Mallard, was swallowed whole after about eight minutes of persistent attempts. There were also repeated, but unsuccessful, attempts to swallow the corpses of five House Sparrows and a small downy Tufted Duck.

In the cases of head chewing, the heads and necks of the House Sparrows were practically denuded of feathers, but the downy Mallard, which I was able to examine after it had been left, had its head squashed right out of shape. Except where decomposition had set in, the corpses were not as badly mutilated as they would have been if raptors or crows had dealt with them. Apart from the

occasion when the whole corpse was swallowed, the only parts actually eaten were some head contents and head and body feathers and, almost certainly, small bits of flesh.

Notes

Manx Shearwater digging by daylight.—At about 2.30 p.m. on 15th May 1961, I was walking in bright sunlight on a sloping cliff on Skokholm, Pembrokeshire, when I heard a Manx Shearwater (*Procellaria puffinus*) calling from its burrow. Kneeling down with my face close to the entrance, I could hear much heaving and panting, and many gentle grunts and squeaks unlike the usual calls. The bird was trying to enlarge its shallow burrow. Small stones and earth were kicked out and, once, a pink-webbed foot appeared. After some ten minutes, the bird turned round in the burrow with an evident effort and put out its head and shoulders. It was panting and looked dishevelled; I could even see some earth in its eye. After a rest, it started picking at bits of grass and roots, then pushed them into the burrow with its bill. Next, using its bill as a tool, it made a shallow furrow right across the entrance and then dug systematically along it. All this time my face was within a foot of the bird, but it did not appear to see me and gradually pushed itself still further out. Eventually, I moved sideways and it came right out in bright sunlight, made a "hairpin bend" turn to the left, shuffled on its front with the aid of bill and claws, and disappeared down an adjoining hole which also looked uncomfortably low and narrow. M. D. Crosby

[The Manx Shearwater's method of excavation was described as long ago as 1942 by R. M. Lockley in his book *Shearwaters* (p. 25), if not earlier. It seems unusual, however, to find so much activity from one in broad daylight, particularly on a bright and sunny afternoon. We showed this note to Mr. Peter Davis, formerly warden of Skokholm bird observatory and now of Fair Isle, and he has commented as follows: "It is not uncommon to find shearwaters by day in shallow holes, or even in shady corners among rocks or walls. Presumably they are birds which do not own a proper burrow, or which have started to dig one but delayed going to sea until it was too light to depart. Often there is newly dug earth around such birds, but I do not recall watching one digging by daylight. However, it would certainly be expected that in such circumstances a shearwater would try to conceal itself more adequately by deepening the hole. Miss Crosby's bird may not have noticed her at first, but the alacrity with which it fled to the neighbouring hole suggests that it had done so before she moved out of the way. In fact, the digging of the furrow

across the entrance may have been a displacement reaction to her presence."—EDS.]

Distribution of Common Scoter in winter off southern Ireland. The reference books all suggest a scarcity or absence of the Common Scoter (*Melanitta nigra*) off the coasts of the southern half of Ireland. In *The Birds of Ireland* (1954) we took our cue from the earlier work of the same name by Ussher and Warren (1900) and from *The Handbook of British Birds* (1939), and stated that one has to go as far north as Dublin Bay before one regularly sees any numbers on the east coast. That was the extent of our information at that time. Later, however, I found Common Scoters in appreciable flocks off the east coast of Co. Wexford and decided that further investigation was necessary. Accordingly, I have searched the seas off Cos. Wicklow, Wexford, Waterford and Cork in the past few winters and interrogated fishermen and others. My investigations have been in the months from November to February to ensure that the birds seen are in their winter quarters and not part of the moving population occurring at other times.

Results show that on the east coast as far south as the entrance to Wexford Harbour the inshore waters are heavily and regularly populated. In several of the bays along the east coast of Co. Wexford —Courtown Harbour, Blackwater Harbour and Wexford Bay—I have made a number of counts ranging from 50 or 100 to over 400 and fishermen have given me similar reports. It seems unlikely that this is a recent development as the same fishermen have recognised the presence of this species for many years.

South of Wexford Harbour, from Rosslare to Carnsore Point, and in the likely-looking coastal waters westward along the south coasts of Cos. Wexford, Waterford and Cork—Ballyteigue Bay, Tramore Bay, Dungarvan Harbour, Youghal Harbour and Bantry Bay—the Common Scoter is no more than a very casual visitor in winter. It is probably significant that there are considerable banks off the east coast where the depth is five fathoms or less, while westwards from Carnsore Point such banks give way to deeper water with skerries and rocky shoals.

On the west coast of Ireland one does not find Common Scoters south of Clew Bay, Co. Mayo, until one reaches Co. Kerry. Here, however, F. King has recorded appreciable numbers wintering regularly in places where, in 1900, Ussher and Warren wrote that only a few occurred. His counts of big flocks on the Kerry coast have varied from 500 to 2,000 in Ballyheigue, Brandon and Dingle Bays. Incidentally, this south-west coast is not included in the map in *A Field Guide to the Birds of Britain and Europe*. It may also be added that in

the bays of this same part of the Kerry coast there is a very large summering population from June to August, varying from 400 to 5,000 and averaging about 1,000, with the maximum numbers in July. Very small and scattered flocks are also occasionally met with in summer along the coasts of Co. Cork. ROBERT F. RUTTLEDGE

Behaviour of Woodpigeon towards fledgling Rook.—On 9th May 1961, at Hainault, Essex, I was standing near some trees in which there was a colony of Rooks (*Corvus frugilegus*) when my attention was attracted by the unusual behaviour of a Woodpigeon (*Columba palumbus*). At least three times, from a height of about three feet above the ground, it dived into some tall herbage. Then it fluttered on the ground at the same spot, its wings outspread and feebly flapping, much as though it were trying to fly without being able to spring into the air for the initial lift. I approached and it flew off normally. Investigation revealed a newly fledged Rook crouching in the herbage. Immediately adjacent was a large hawthorn containing a Woodpigeon's nest with two squabs three-quarters grown.

There is no doubt that the diving attacks and the fluttering display on the ground were all directed at the Rook. I was only about fifteen yards from the patch of herbage when the action took place and, though I could not actually see the Rook at the time, it was exactly in the place where the Woodpigeon was diving. The herbage was an isolated piece of cover less than a yard across in an area which had otherwise been cropped low by cows. When the Woodpigeon was fluttering on the ground, it was little more than two feet from where the Rook was lying. There were workmen digging in the vicinity and a gardener was standing not very far away, but I was left with the distinct impression that both they and I were outside the orbit of the Woodpigeon's concern at that time. In any case, the place was only about twenty yards from a fairly busy drive and the Woodpigeon must have been well used to human disturbance. Presumably it was the parent of the squabs and regarded the fledgling Rook as a predator which it first tried to drive off and then to lure away by feigning inability to fly. D. J. SUMMERS

[It is interesting to compare this note with the recently published observation on the display of a Woodpigeon towards two Magpies (*Pica pica*) (*Brit. Birds*, 54: 118-119).—EDS.]

Short-eared Owl stooping at cock Pheasant.—On the afternoon of 26th November 1960, I watched a Short-eared Owl (*Asio flammeus*) hunting an area of rough grassland near Wicken Fen, Cambridgeshire. The bird was flying leisurely some six feet above the ground, when it suddenly braked hard, hovered for a few seconds and dropped towards

the ground, talons lowered. The owl's potential victim proved to be a cock Pheasant (*Phasianus colchicus*), which rose sharply from the ground and uttered continuous alarm calls. As the Pheasant flew up, it hit the owl, but the latter made no attempt to grab it—I think the owl was too surprised, for it flew off rapidly in the opposite direction to the Pheasant! I can find no reference to Short-eared Owls attempting to take such large prey, though, according to Ralph Chislett in *Yorkshire Birds* (1953), they have been said to take young game-birds. It has been suggested that this incident was no more than play or accident, but the owl's actions gave every appearance of a serious attempt to catch prey and, if it was an accident, it was a gross error of judgement on the part of a predator hunting in good light. I searched the ground from which the Pheasant was disturbed and there was not sufficient cover for it to have been even partially hidden. A cock Pheasant can hardly be described as inconspicuous, either in shape or in colour, and so it would seem that the owl was well aware of the size of the bird at which it was stooping. P. R. EVANS

Skylarks feeding on kitchen scraps.—Mrs. F. E. Carter's recent note (*Brit. Birds*, 54: 245) brings to mind an observation I made ten years ago. From 23rd June to 7th July 1951, up to three Skylarks (*Alauda arvensis*) fed regularly in my garden at Liverpool. They frequently ate bread and cheese scraps or took them away, presumably to nestlings. They were also seen to eat fly pupae and, once, a piece of fried black pudding. The garden is situated on the edge of the town and was then no more than a piece of waste ground.

D. J. LOW

Swallows killed by brambles.—The recent publication of the death of a juvenile Sand Martin (*Riparia riparia*) on a burdock (*Brit. Birds*, 54: 246) prompts me to record a similar event. On 24th May 1961, at Getares, near Algeciras, Spain, I was looking for migrants in an overgrown stream-bed. Many Hirundines were feeding between its banks and some were resting periodically on the strands of overhanging vegetation. Hanging from a dead bramble were two bundles of feathers, both of which had recently been juvenile Swallows (*Hirundo rustica*). One was clearly impaled through the right wing, the other apparently caught by the body. A few adult Swallows were perching freely and safely in brambles near-by, but other juveniles, with their more unstable flight, seemed to be in some danger.

D. I. M. WALLACE

Swallows attacking Sand Martins' nest-holes.—Just outside Kilkenny, Ireland, there is a small sand pit which holds a colony of

about fifty pairs of Sand Martins (*Riparia riparia*). On 6th July 1961, I watched eight Swallows (*Hirundo rustica*) repeatedly trying to enter five of the occupied nesting holes. Several got halfway into the holes, but were pushed out by Sand Martins already in occupation. The latter then remained at the entrances and pecked off any further attempts at entry. I noticed several instances of Swallows clinging to the cliffs beside nesting holes and being dislodged by Sand Martins swooping at them. Finally, the aggressors flew off. The holes under attack were about fifteen yards from the main colony and only the ten occupants took part in defending them.

RAYMOND J. O'CONNOR

Grass roots ensnaring Jay's head.—On 6th August 1961, we visited a small wood near Colchester, Essex, and found a freshly dead Jay (*Garrulus glandarius*) ensnared in the thick roots of some grass at the base of a birch tree. We removed the corpse with some difficulty, having to pull at it quite hard. It appeared that the bird had been foraging in the roots of the grass and had somehow pushed its head too far down and then forward. Everything was entirely consistent with this and there was no evidence of any other agency at work. The bird was quite intact and seemed to be a young one in its first moult. The feathers of the head and chin were still in their quills.

A. K. WOOLSEY and B. FROST

Leaf-plucking behaviour of Nuthatches.—In the spring of 1958, while watching the nesting activities of a pair of Nuthatches (*Sitta europaea*) in my garden at Welwyn, Hertfordshire, I witnessed some interesting leaf-plucking behaviour. This was mostly a feature of the cock's activities during the hen's egg-laying and incubating period. At this time he developed a desire to remove leaves from the vicinity of the box in which he and his mate were nesting. On numerous occasions I saw him select and pluck a leaf, then take it away and drop it within about thirty feet. The leaves were taken from ivy (*Hedera helix*) on the tree trunk close to the nesting box, and from hornbeam (*Carpinus betulus*) overhead. He was very determined, and if, as sometimes happened, an ivy leaf proved hard to pluck, he would search for another and more tender one which came away easily. He also kept the nesting box free from any debris, such as catkins, which fell on it. The hen was seen to pluck a leaf only once. Unfortunately I could not tell how this might have developed, as the hen disappeared on the fifteenth day of incubation and was not seen again. I have watched the cock's nesting activities during the succeeding springs, and noted this behaviour again during April 1960.

I have seen a variation of this leaf-plucking by Nuthatches when

small companies of the birds collect in the trees in early autumn, apparently disputing territory. On these occasions activity reaches a high pitch of excitement. The birds keep up a chittering chorus, and peck vigorously at the nearest boughs, sometimes plucking leaves, though these are not taken away. EILEEN A. SOPER

Whinchat's nest surviving grass fire.—On 24th June 1961, at Holme Pierrepont gravel pits, Nottinghamshire, we found a hen Whinchat (*Saxicola rubetra*) sitting on four eggs in a nest in coarse grass on the side of a mound. At 3.0 p.m. on 4th July, there were still four eggs and the female was again on the nest. Later that day, at about 4.30 p.m., the thick dry grass surrounding the nest caught fire. We returned to the site at 5.30 p.m., at which time the grass was still smouldering. The cover round the nest was completely destroyed and the edges of the nest itself were badly singed, but the interior of the cup was unharmed and one of the eggs had hatched. As the nestling had not begun to emerge when the nest was examined at 3.0 p.m., it seemed likely that it had hatched about the time of the fire. The fact that the inside of the nest and its contents were unharmed raises the interesting question of whether the hen bird sat through the flames.

The nest was now completely exposed and so we placed some long grass over and around it, to protect it from predators and the weather. Two of the three other eggs also hatched successfully and, in due course, three fledglings left the nest. P. M. HOPE and G. E. PIPE

[Even though it is uncertain whether the female sat through the fire, this observation gives an idea of the insulating capacity of a nest and emphasises the reluctance of many birds to desert well incubated eggs or newly hatched young, even in the face of extreme disturbance. Fear of fire is normally very deeply rooted in all animals.—EDS.]

Pallas's Warbler in Yorkshire.—At 3.15 p.m. on 22nd October 1960, P.H.G.W. and J.M.B. found a small *Phylloscopus* warbler in some buckthorn on the peninsula at Spurn, Yorkshire. It was no bigger than a Goldcrest (*Regulus regulus*) and from its small size, its greenish colour with primaries and tail slightly darker, its conspicuous yellow superciliary and centre crown-stripe, and its pale lemon-yellow rump, they concluded that it was a Pallas's Warbler (*Ph. proregulus*). The description entered in the log at Spurn Bird Observatory also noted that it had whitish under-parts washed yellow on the throat and upper breast, and a short but conspicuous *single* yellow wing-bar. The absence of a second wing-bar was thought perhaps to be due to wear on the tips of the wing-coverts. It had a monosyllabic call note

(rendered as *swee*) and was very active, even "flycatching" at times. In all, it was under observation for about three-quarters of an hour at ranges down to six feet.

Early the following morning, the 23rd, the bird was found again within a hundred yards of where it had last been seen at dusk the previous evening. It was subsequently trapped, weighed, ringed, photographed and released. A very detailed description was entered in the observatory records and the following is a summary of it:

Upper-parts: crown olive-green with black tips to feathers (particularly those at rear); very distinct lemon-yellow superciliary on each side, these meeting above the bill, and a paler stripe down centre of crown (all three stripes broadened on to the nape, giving a stripy appearance against the darker feathers there); dark grey eye-stripe circling round in a hook shape near nape; ear-coverts olive-yellow with smoky edges; mantle, scapulars, back, and upper tail-coverts pure olive-green with no dark tips to feathers; rump conspicuous pale lemon. *Wings and tail:* primaries smoky brown with outer webs yellow-green and inner webs edged with pale greyish-white; secondaries as primaries but with basal quarter of outer webs brown-olive, this colour protruding 5 mm. beyond the coverts; tertials as secondaries but with outer edges and tips of the innermost two whitish lemon-yellow; primary coverts as primaries but with broader outer edgings; greater and median coverts dark grey-brown with broad lemon-yellow tips forming conspicuous *double* lemon-yellow wing-bars; lesser coverts greyish-brown with broad olive-yellow edgings and tips; tail feathers grey-brown tinged olive with bright yellow-green edgings. *Under-parts:* mainly off-white but tinged greyish on throat and tinged yellow on breast; under tail-coverts more yellowish; axillaries bright lemon-yellow. *Soft parts:* bill blackish-brown with pale horn tip and light reddish-brown base to lower mandible; gape yellow; legs greyish-brown; claws yellow-brown; iris dark brown. *Measurements and wing formula:* wing 49.5 mm., tail 38 mm., tarsus 15 mm., bill (from skull) 10 mm., weight 4.61 gm.; 4th primary longest, 3rd and 5th −0.5 mm., 6th −1, 7th −5, 2nd −6 (about equal to 8th), 1st 9 mm. longer than primary coverts; 3rd to 6th emarginated, 6th to 10th and all secondaries sharply pointed.

The plumage description and measurements were taken by R. F. Dickens, P. J. Mountford, Col. H. G. Brownlow, M. Densley, Miss C. Shaddick and P.H.G.W. The bird was also seen in the hand by Mr. and Mrs. E. C. Sterne, K. C. Briand, I. H. Wright, D. A. Rushforth, H. E. Scott, Miss M. Wray and Miss D. Walker. When released, it perched within a few feet of the observers, but even at such close range the inner wing-bar was not to be seen except when the wind ruffled the coverts.

Four hours after the bird had been released, a *Phylloscopus* warbler was located some distance away by most of those named above. The yellow rump, conspicuous superciliary and wing-bar, tiny size, greenish upper-parts and active behaviour convinced all concerned that it was a Pallas's Warbler, but whether or not it was the same bird could not be ascertained. P. H. G. WOLSTENHOLME, J. M. BUTTERWORTH and RALPH CHISLETT

[This constitutes the sixth British record of this Siberian species, and the fifth in a space of ten years. It should be remembered that one was identified in Essex only a week before the present observation (*Brit. Birds*, 54: 73-74).—EDS.]

Great Grey Shrike persistently chasing pipit.—In a recent note (*Brit. Birds*, 54: 163-164) Ralph Stokoe draws attention to the inference in *The Handbook* that Great Grey Shrikes (*Lanius excubitor*) normally capture small birds by a surprise swoop from a perch. I suggest, however, that a chase of one sort or another may be more usual.

On 9th August 1960, in an area of birch scrub on the Kiruna-Kareasuando road in northern Sweden, my attention was drawn to two birds fifty or sixty feet up in the air over my head. One was a pipit (*Anthus* sp.) and the other a Great Grey Shrike. The latter was closely pursuing the former and apparently endeavouring to attack it. Although the shrike was far faster in its movements, however, the pipit was able to make abrupt turns within a small compass. This continually caused the shrike to over-reach itself and perform a series of larger circles around the pipit. The smaller bird constantly uttered a long shrill note, but the shrike was silent. In spite of its apparently weak flight, the former was persistently able to avoid the other's rushes and this "hare and tortoise" type of chase, which may have begun some time before I noticed it, continued for two or three minutes until the shrike finally turned away and swooped down to perch on a vantage point. C. J. O. HARRISON

White-throated Sparrow in Hampshire.—On 19th May 1961, at Needs Oar Point, near Beaulieu, Hampshire, I watched a bird which, from the field-description taken at the time, I was later able to identify as a White-throated Sparrow (*Zonotrichia albicollis*). It was perched prominently on a gorse bush and I watched it preening for about twenty minutes at 25 to 30 yards range before it dropped to the ground to feed. It then disappeared into a gorse thicket from which it did not subsequently emerge and from which it could not be flushed. In general appearance it strongly resembled a Dunnock (*Prunella modularis*), but with prominent black and white head stripes. The following is a summary of the description obtained:

Upper-parts: streak through centre of crown white, faintly tinged buff; black stripe from bill broadening out posteriorly and extending to hind crown; very broad superciliary, white (tinged grey) behind eye, lemon yellow in front of eye; a second black stripe through eye, slightly broader behind eye and broadening out on posterior ear-coverts; ear-coverts and sides of neck grey; mantle chestnut-brown with black stripes; back rich buff with black stripes; tail rich brown, slightly paler on outer edges of outer feathers, notched; wing-coverts chestnut, with buffish tips to lesser and greater coverts; primaries greyish-

brown. *Under-parts:* throat white, enclosed by a narrow black border, broader below; breast greyish; belly paler grey; flanks tinged buff. *Soft parts:* bill greyish-horn; legs buffish; eye dark.

It was no doubt due to the horizontal pose, the nervous actions (including wing-flicking) and the combination of soft grey under-parts and heavily striped chestnut-brown upper-parts that the bird had a Dunnock-like appearance. The crown was high in the front, and sloped back.

I had had a brief glimpse of a small Dunnock-like bird with prominent black and white head stripes at the same place a fortnight earlier, on 5th May, but could not find it on 10th May, when I next visited the area.

This constitutes only the second authenticated record of this North American species in Great Britain, the first being a male shot on the Flannan Isles on 18th May 1909 (*Brit. Birds,* 53: 97-98). It is also of note, however, that two White-throated Sparrows crossed the Atlantic from New York to Southampton on board ship in September-October 1957, last being seen within sight of the British Isles (*Brit. Birds,* 51: 358).

J. T. R. SHARROCK

Review

The Canvasback on a Prairie Marsh. By H. Albert Hochbaum. Stackpole Company, Harrisburg, U.S.A., 1959 (second edition). 207 pages; 18 photographs. $4.50.

Originally published towards the end of the 1939-45 war, this was the first of a series of authoritative studies emanating from the Delta Waterfowl Research Station in Manitoba, Canada, where the author has been Director for many years. As a work of merit it won the Brewster Medal of the American Ornithologists' Union and the Literary Award of the Wildlife Society. For us in the British Isles, this second edition comes at a time when stirrings in the field of waterfowl conservation spotlight a need for a wider and up-to-date knowledge of our game ducks.

The story unfolds on the huge Delta Marsh bordering the southern shore of Lake Manitoba. Here, on an April morning, duck may be encountered in tens of thousands on marshes reaching beyond the horizon. While maintaining the thread of continuity in the Canvasback, a much sought after quarry of North American sportsman, Dr. Hochbaum writes intimately of the familiar Mallard, Shoveler and Pintail, as well as of such New World species as Blue-winged Teal, Redhead and Lesser Scaup. After detailing the arrival dates of seventeen species and the excess of males in the first flights of the three

diving ducks mentioned above, he follows with a very stimulating chapter on courtship. The courtship of all Delta ducks is divided into pre-nuptial competition, a period of non-display and, finally, the nuptial display of the mated pair; the last is closely related to territorial behaviour. Pre-nuptial courting parties and various display postures are sketched and described, and the functions of courtship fully discussed.

Approximately a quarter of the book concerns the nesting season of ten common species. As elsewhere, much original observation supports discussions on territory—its selection, components, defence and function—and other subjects covered in this part include utilisation of nesting cover; incubation periods; and the spans of the nesting periods. Another thirty pages are devoted to the brood season, with important data on the development of the young and the duration of the brood period. A section on the post-breeding season explains the delayed wing-moult of females and the post-breeding movements, habits and moulting grounds of many species. A final chapter on management is a recapitulation of important topics, the kind of things that anyone responsible for the welfare of wild ducks ought to be aware of. A fine coloured frontispiece of Canvasbacks in courtship flight and many delightful pen and ink sketches are by the author, who is unquestionably a waterfowl artist of the highest order. The tables and figures are particularly useful and a layout similar to one or two of the latter has already been adopted by other writers, including the reviewer.

So far, this review has touched only on what was written eighteen years ago, but an extremely important section of addenda (pages 183-188) briefly brings each chapter up-to-date. In some cases the results of these later studies supersede the author's own pioneer thinking and other concepts may need revision as the years roll by, but the lasting value of this impressive book lies in the helpful basic teaching it provides for professional and amateur waterfowl biologists and, indeed, for anyone interested in ducks.

I am confident that others will feel as I did some sixteen years ago when, on my reading this book for the first time, my own fragments of observation fell quickly into orderly pattern. Dr. Hochbaum bridged the gaps and by the time the epilogue was reached I felt a better duck man than I had been before. E. H. GILLHAM

Correction. "Voice of the Whinchat": In a note on this subject in our August issue (page 328), reference was made to the first breeding record of the Whinchat (*Saxicola rubetra*) in Co. Westmeath. This should have been Co. Meath.

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